```
YSTEM:OS  - DIALOG OneSearch
  File 155:MEDLINE(R) 1951-2005/Aug W1
        (c) format only 2005 Dialog
  File  55:Biosis Previews(R) 1993-2005/Aug W1
        (c) 2005 BIOSIS
  File  34:SciSearch(R) Cited Ref Sci 1990-2005/Jul W5
        (c) 2005 Inst for Sci Info
  File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
        (c) 1998 Inst for Sci Info
  File 340:CLAIMS(R)/US Patent 1950-05/Aug 09
        (c) 2005 IFI/CLAIMS(R)

      Set  Items  Description
      ---  -----  -----------
? s bh1 or bh2
             412  BH1
             875  BH2
      S1    1036  BH1 OR BH2
? s bad
      S2   37363  BAD
? s s1 and s2
            1036  S1
           37363  S2
      S3      46  S1 AND S2
? s bcl?
      S4   82651  BCL?
? s s3 and s4
              46  S3
           82651  S4
      S5      46  S3 AND S4
? s heterodimer??
      S6   44102  HETERODIMER??
? s s5 and s6
              46  S5
           44102  S6
      S7       4  S5 AND S6
? rd
>>>Duplicate detection is not supported for File 340.

>>>Records from unsupported files will be retained in the RD set.
...completed examining records
      S8       3  RD (unique items)
? t s8/3,k,ab/1-3

 8/3,K,AB/1     (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2005 Dialog. All rts. reserv.

10840203   PMID: 7834748
    Bad , a heterodimeric partner for Bcl -XL and Bcl -2, displaces Bax
and promotes cell death.
  Yang E; Zha J; Jockel J; Boise L H; Thompson C B; Korsmeyer S J
  Howard Hughes Medical Institute, Department of Medicine, Washington
University School of Medicine, St. Louis, Missouri 63110.
  Cell (UNITED STATES)  Jan 27 1995,  80  (2)  p285-91,  ISSN 0092-8674
Journal Code: 0413066
  Contract/Grant No.: CA50239; CA; NCI
  Publishing Model Print
  Document type: Journal Article
  Languages: ENGLISH
  Main Citation Owner: NLM
```

Record type: MEDLINE; Completed

To extend the mammalian cell death pathway, we screened for further **Bcl** -2 interacting proteins. Both yeast two-hybrid screening and lambda expression cloning identified a novel interacting protein, **Bad** , whose homology to **Bcl** -2 is limited to the **BH1** and **BH2** domains. **Bad** selectively dimerized with **Bcl** -xL as well as **Bcl** -2, but not with Bax, **Bcl** -xs, Mcl-1, A1, or itself. **Bad** binds more strongly to **Bcl** -xL than **Bcl** -2 in mammalian cells, and it reversed the death repressor activity of **Bcl** -xL, but not that of **Bcl** -2. When **Bad** dimerized with **Bcl** -xL, Bax was displaced and apoptosis was restored. When approximately half of Bax was heterodimerized, death was inhibited. The susceptibility of a cell to a death signal is determined by these competing dimerizations in which levels of **Bad** influence the effectiveness of **Bcl** -2 versus **Bcl** -xL in repressing death.

Bad , **a** heterodimeric **partner for** Bcl **-XL and** Bcl **-2, displaces Bax and promotes cell death.**

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...Descriptors: physiology--PH; *Carrier Proteins--metabolism--ME; *Proto-Oncogene Proteins--metabolism--ME; *Proto-Oncogene Proteins c- **bcl** -2

Gene Symbol: **bad**

Chemical Name: Antibodies; **Bad** protein; Carrier Proteins; Macromolecular Substances; Proto-Oncogene Proteins; Proto-Oncogene Proteins c- **bcl** -2; Recombinant Proteins; **bcl** -x protein

8/3,K,AB/2 (Item 1 from file: 55)

DIALOG(R)File 55:Biosis Previews(R)

0009667922 BIOSIS NO.: 199598135755

Bad , **a** Heterodimeric **Partner for** Bcl **-X-L and** Bcl **-2, Displaces Bax and Promotes Cell Death**

AUTHOR: Yang Elizabeth (Reprint); Zha Jiping; Jockel Jennifer; Boise Lawrence H; Thompson Craig B; Korsmeyer Stanley J

AUTHOR ADDRESS: Howard Hughes Med. Inst., Div. Mol. Oncol., Dep. Med., Washington University Sch. Med., St. Louis, MO 63110, USA**USA

JOURNAL: Cell 80 (2): p285-291 1995 1995

ISSN: 0092-8674

DOCUMENT TYPE: Article; Literature Review

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: To extend the mammalian cell death pathway, we screened for further **Bcl** -2 interacting proteins. Both yeast two-hybrid screening and lambda expression cloning identified a novel interacting protein, **Bad** ,

whose homology to **Bcl** -2 is limited to the **BH1** and **BH2** domains. **Bad** selectively dimerized with **Bcl** -x-L as well as **Bcl** -2, but not with Bax, **Bcl** -x-s, Mcl-1, A1, or itself. **Bad** binds more strongly to **Bcl** -x-L than **Bcl** -2 in mammalian cells, and it reversed the death repressor activity of **Bcl** -x-L, but not that of **Bcl** -2. When **Bad** dimerized with **Bcl** -x-L, Bax was displaced and apoptosis was restored. When approximately half of Bax was heterodimerized, death was inhibited. The susceptibility of a cell to a death signal is determined by these competing dimerizations in which levels of **Bad** influence the effectiveness of **Bcl** -2 versus **Bcl** -x-L in repressing death.

Bad , **a** Heterodimeric **Partner for** Bcl **-X-L and** Bcl **-2, Displaces Bax and Promotes Cell Death**

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8/3,K,AB/3 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

06445160 Genuine Article#: YT745 Number of References: 31
Title: Dimerization properties of human BAD **- Identification of a BH-3 domain and analysis of its binding to mutant** BCL **-2 and** BCL **-X-L proteins** (ABSTRACT AVAILABLE)
Author(s): Ottilie S; Diaz JL; Horne W; Chang J; Wang Y; Wilson G; Chang S; Weeks S; Fritz LC; Oltersdorf T (REPRINT)
Corporate Source: IDUN PHARMACEUT INC,11085 N TORREY PINES RD/LA JOLLA//CA/92037 (REPRINT); IDUN PHARMACEUT INC,/LA JOLLA//CA/92037
Journal: JOURNAL OF BIOLOGICAL CHEMISTRY, 1997, V272, N49 (DEC 5), P 30866-30872
ISSN: 0021-9258 Publication date: 19971205
Publisher: AMER SOC BIOCHEMISTRY MOLECULAR BIOLOGY INC, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814
Language: English Document Type: ARTICLE
Abstract: **Bad** , an inducer of programmed cell death, was recently isolated from a mouse cDNA library by its ability to bind to the anti-apoptotic protein **BCL** -2. Sequence analysis suggested that **Bad** was a member of the **BCL** -2 gene family that encodes both inducers and inhibitors of programmed cell death. To further analyze the role of **BAD** in the network of homo- and **heterodimers** formed by the **BCL** -2 family, we have cloned the human homologue of **BAD** and assessed its biological activity and its interactions with wild type and mutant **BCL** -2 family proteins. Our results indicate that the human **BAD** protein, like its mouse homologue, is able to induce apoptosis when transfected into

mammalian cells. Furthermore, in yeast two-hybrid assays as well as quantitative in vitro interaction assays, human **Bad** interacted with **BCL** -2 and **BCL** -X-L. Sequence alignments of human **BAD** revealed the presence of a BH-3 homology domain as seen in other **BCL** -2 family proteins, Peptides derived from this domain were able to completely inhibit the dimerization of **BAD** with **BCL** -X-L. Thus, as previously shown for BAX, BAK, **BCL** -2, and **BCL** -X-L, the BH3 domain of **BAD** is required for its dimerization with other **BCL** -2 family proteins. **BAD** was further analyzed for its ability to bind to various mutants of **BCL** -2 and **BCL** -X-L that have lost the ability to bind BAX and BAK, some of which retain biological activity and some of which do not. Surprisingly, all of the mutated **BCL** -2 and **BCL** -X-L proteins analyzed strongly interacted with human **BAD** . Our data thus indicate that mutations in **BCL** -2 and **BCL** -X-L can differentially affect the **heterodimeric** binding of different death-promoting proteins and have implications concerning the relationship between heterodimerization and biological activity.

Title: Dimerization properties of human BAD **- Identification of a BH-3 domain and analysis of its binding to mutant** BCL **-2 and** BCL **-X-L proteins**

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...Identifiers--PROGRAMMED CELL-DEATH; HOMOLOG BAK; APOPTOSIS; INHIBITION; **BCL** -X(L); GENE; DISTINCT; **BH1**

? log off

10aug05 09:17:30 User231882 Session D1461.2

$1.00 0.295 DialUnits File155

$0.21 1 Type(s) in Format 4 (UDF)

$0.21 1 Types

$1.21 Estimated cost File155

$1.90 0.322 DialUnits File55

$2.00 1 Type(s) in Format 4 (UDF)

$2.00 1 Types

```
     $3.90  Estimated cost File55
            $6.84     0.309 DialUnits File34
               $6.43  1 Type(s) in Format 55 (UDF)
            $6.43  1 Types
    $13.27  Estimated cost File34
            $2.08     0.094 DialUnits File434
     $2.08  Estimated cost File434
            $3.05     0.175 DialUnits File340
     $3.05  Estimated cost File340
            OneSearch, 5 files,  1.195 DialUnits FileOS
     $1.06  TELNET
    $24.57  Estimated cost this search
    $24.62  Estimated total session cost   1.406 DialUnits

Logoff: level 05.06.01 D  09:17:30

You are now logged off
```